

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047202 A3

- (51) International Patent Classification⁷: C23C 14/08, (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/US2004/024232
- (22) International Filing Date: 28 July 2004 (28.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/490,969 29 July 2003 (29.07.2003) US
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Published:

— with international search report

(88) Date of publication of the international search report:
25 August 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/047202 A3

(54) Title: METHOD FOR APPLICATION OF A THERMAL BARRIER COATING AND RESULTANT STRUCTURE THEREOF

(57) Abstract: Provided herein are methods and apparatuses, and resulting structures, for depositing ceramic coatings with preferred coating density, morphology and adherence for applications such as thermal protection of internally cooled components. Such components are found in, but not limited thereto, the hot sections of gas turbine and diesel engines and in turbo machinery. These coatings require a low thermal conductivity in the through thickness of the coating, high in-plane elastic compliance, high erosion and foreign object damage resistance and resistance to hot corrosion. The methods and apparatuses discussed herein provide, among other things, how to manipulate the process conditions in EB-DVD systems to deposit high quality, highly efficient TBC top coats as well as how to deposit high quality TBC top coats onto positions that are in the line-of-sight, as well as non-line of sight, of the vapor source.